

REMARKS

**STATUS OF THE CLAIMS**

Claims 1-23 are pending and stand rejected.

By this Amendment, claims 1, 6 and 11 are amended, claims 24-26 are added and claims 19-23 are cancelled without prejudice or disclaimer.

No new matter is presented in the foregoing claim amendments and new claims, accordingly, approval and entry of same are submitted to be proper and are respectfully requested.

**ITEM 3: CLAIM OBJECTIONS**

In the Action at item 3, claim 22 is objected to for indefiniteness.

Since claim 22 is cancelled without prejudice or disclaimer, the objection is now moot.

**ITEMS 4: CLAIM REJECTIONS UNDER 35 U.S.C. § 112, 2<sup>nd</sup>**

In the Action at item 4, claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Since claim 22 is cancelled without prejudice or disclaimer, the rejection is now moot.

**ITEM 5: CLAIM REJECTIONS UNDER 35 U.S.C. § 102**

In the Action at item 5, claims 1-3, 6-8, 11-13, 16-21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilfong (U.S. Patent No. 5,754,652).

Reconsideration is respectfully requested.

**Claim 1**

Claim 1 is directed to a device for checking user identification, and recites "the user-specific formula includes one or more elements which are, respectively, either an operand or an operator, and all of said one or more elements are predetermined user-specific information except for the at least one randomly generated number." That is, every element of the claimed formula is user-specific, except for the at least one randomly generated number.

### **Wilfong Reference**

Wilfong discloses generating a random number, presenting the random number to a user, and letting the user enter a digit that is obtained by adding a digit of a user's PIN (i.e., which is a user-specific PIN) to the presented random number. (See Wilfong at column 2, lines 48-57.) Contrary to the recitation in claim 1, in the Wilfong method, the formula that the user uses is comprised of a random number, an addition operator, and a digit of the PIN. Except for the random number, only the digit of the PIN is user-specific, and, otherwise, the addition operator is not user-specific.

Furthermore, results obtained by the Wilfong method are different. According to the invention recited in claim 1, even if the random number and the user input are observed by a bystander, security is not broken. However, in the Wilfong method, if the random number and the user entered digits are observed, the Wilfong system cannot protect the PIN from the bystander. This is because the addition operator is not user-specific, but, otherwise is known to the bystander.

Accordingly, claim 1 is submitted to patentably distinguish over the cited art and is submitted to be allowable.

### **Claims 2-3, 6-8, 11-13 and 16-18**

Claims 6 and 11 for reasons similar to those of claim 1 are also submitted to be allowable.

Claims 2-3, 7-8, 12-13, and 16-18, which depend from claims 1, 6 and 11, are submitted to be allowable over the cited art for at least the same reasons as claims 1, 6 and 11, as well as for the additional recitations therein.

### **ITEM 6: CLAIM REJECTIONS – 35 U.S.C. § 103**

In the Action at item 6, claims 4-5, 9-10 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilfong and Pegg (U.S. Patent No. 5,163,097).

It is submitted that the additional reference of Pegg does not overcome the deficiencies of Wilfong, since no motivation exists to combine the teachings of Pegg with that of Wilfong. The Wilfong system provides security against an adverse observer by providing random numbers that are generated by the system. (See for example, Wilfong at column 2, line 28-31). The Pegg method provides security against an adverse observer by utilizing a user-selected

algorithm. (See Pegg at column 2, lines 38-41.) To apply the Pegg user-selected algorithm to the Wilfong system, there must be an appreciation of the fact that there is a risk of having both the random number and the user input observed by a bystander. In the absence of such appreciation, no motivation exists to combine these two systems, since each of the two systems provides security. Further, in the Wilfong method communication is made by telephone, so that there is no risk of having random numbers observed by bystanders, which can only observe the keys of the telephone. Moreover, Wilfong, at column 2, lines 32-34, discloses that "the system prompts are made in such a way as not to be observable by bystanders." Since in the Wilfong method the system prompt are not observable, no motivation exists to combine Pegg therewith because there is no need to cope with a situation where random numbers are observed by the bystanders.

#### **NEW CLAIM 24-26**

New claims 24-26 are provide to afford a varying scope of protection.

New claim 24 includes patentably distinguishing features not disclosed or suggested by the cited art, namely "the user-specific formula having elements, each of which is an operand or an operator, and is user-specific," (as recited in claim 24), and are submitted to be allowable.

New claims 25 and 26 for reasons similar to those of claim 26 are also submitted to be allowable.

Entry and consideration are respectfully requested.

#### **CONCLUSION**

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

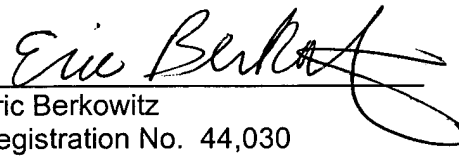
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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